

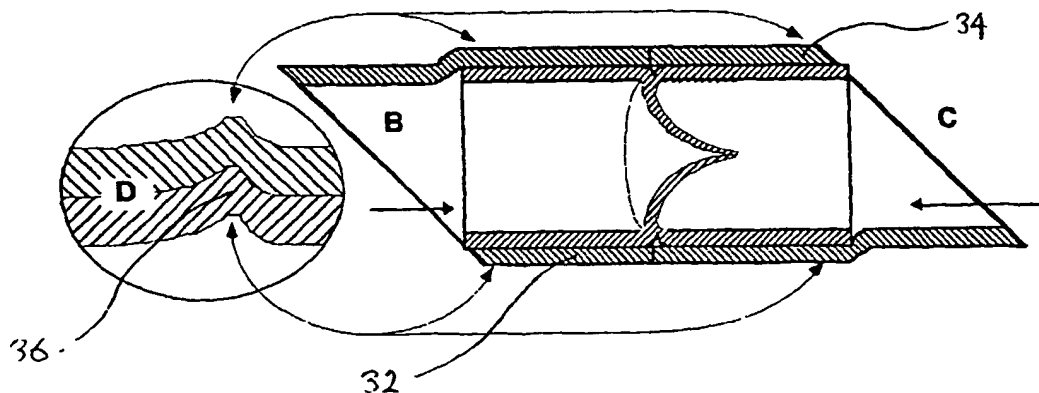
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(54) Title: A NON-RETURN VALVE



(57) Abstract: A non-return valve (10), typically of commonly called duckbill valve shape, comprising a valve body (12) and a valve membrane (14). The valve body (12) is generally tubular and includes an elongate passageway (16) with inlet (18) and outlet (20) at opposing ends. The valve membrane (14) is of a generally conical-shaped diaphragm formed integrally with the valve body (12). The diaphragm (14) has a collapsible opening or aperture (22) located at or adjacent to the conical apex. The conical diaphragm (14) is oriented with its apex pointing downstream. The resiliently flexible material from which the diaphragm (14) is constructed, ensures that the diaphragm (14) in a collapsed condition obstructs or closes the aperture (22) to prevent fluid flowing in a reverse direction, i.e. backflow towards the inlet. Pressurisation of fluid within the passageway (16) on the inlet (18) side of the diaphragm (14), deflects the diaphragm to open the aperture (22) so that fluid can flow through the passageway from the inlet (18) to the outlet (20) only. A membrane permeable in one direction only can also be made from a panel or sheeting incorporating many such collapsible non-return duckbill valves on the surface of the panel or sheet.

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